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Efficacy evaluation of neoadjuvant chemotherapy in patients with breast cancer

Bachelor thesis

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Background: The aim of this bachelor thesis was to evaluate the efficacy of neoadjuvant chemotherapy in patients with breast cancer, its statistical evaluation and the prognostic value of pathologic complete response (pCR).

Methods: The data set of 77 patients after administration of neoadjuvant chemotherapy was compiled and evaluated. Information was obtained by exploring the medical records.

Results: All patients underwent the surgery after administration of neoadjuvant chemotherapy. 26, 2 % of the patients with breast cancer after administration of neoadjuvant chemotherapy achieved pCR. Higher pCR rate (29 %) was observed in elderly patients over the age of 40 years. Significantly higher frequency of pCR (42,4 %) was determined in patients with earlier clinical stage of the disease. Significantly higher pCR rate (50 %) was found in patients treated by taxane with the addition of carboplatin. Contribution of pCR on progression-free survival could not be demonstrated because of the low number of patients with determined disease progression. Achieved pCR in patients correlated with a higher 3 -year overall survival, the difference was not considered as statistically significant due to the small number of patients.

Conclusion: The benefit of the administration of neoadjuvant chemotherapy on the rate of performed surgeries was confirmed. Determined achieved pCR was consistent with published data. Different pCR rate was established according to the treatment regimens administered, age group and clinical stage of the disease. Contribution of pCR on progression-free survival and overall survival should be confirmed by additional monitoring with higher patients cohort.

Key words: Breast cancer, neoadjuvant chemotherapy, surgery, pathologic complete response, clinical stage of disease, age structure, progression-free survival, overall survival.